

What is claimed is:

1 1. A method of encoding video information, comprising the steps of:
2 receiving the video information;
3 identifying an element of the video information;
4 assigning a priority to the element; and
5 encoding the video information into a bitstream, including an indication of the priority of
6 the element.

1 2. The method of claim 1, wherein said step of encoding is performed to encode the
2 video information into a bitstream for low bitrate transmission.

1 3. The method of claim 1, wherein said step of encoding is performed according to the
MPEG-4 standard.

2 4. The method claim 1, wherein the element is a visual object.

5. The method of claim 1, wherein the element is a video object layer.

1 6. The method of claim 1, wherein the element is a video object plane.

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1 7. The method of claim 1, wherein the element is a keyregion.

1 8. The method of claim 1, wherein said step of assigning a priority to the element, and
2 including the indication of the priority of the element in the encoded bitstream, is optional.

1 9. The method of claim 1, wherein the bitstream is a visual bitstream and the indication
2 of the priority of the element is carried by a specific codeword in the visual bitstream.

1 10. The method of claim 1, wherein the bitstream is a systems bitstream and the
2 indication of the priority of the element is included as part of an object descriptor in the systems
3 bitstream.

1 11. The method of claim 1, wherein said step of assigning a priority is performed based
2 on the importance of the information contained in the element.

1 12. The method of claim 1, wherein said step of encoding is performed for elements
2 having a high priority before being performed for elements having a low priority.

1 13. The method of claim 1, wherein said step of encoding is not performed for elements
2 having a low priority.

1 14. The method of claim 1, further comprising the step of:
2 transmitting the bitstream, wherein information related to elements having a high priority
3 is transmitted before information related to elements having a low priority.

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3 15. A method of decoding an encoded bitstream, comprising the steps of:
receiving the encoded bitstream;
4 identifying a first element and a second element in the encoded bitstream, the first
5 element having a first priority and the second element having a second priority lower than the
6 first priority; and
decoding the first element to reconstruct video information contained in the bitstream.

1 16. The method claim 15, wherein the first and second elements are visual objects.

1 17. The method of claim 15, wherein the first and second elements are video object
2 layers.

1 18. The method of claim 15, wherein the first and second elements are video object
2 planes.

1 19. The method of claim 15, wherein the first and second elements are keyregions.

1 20. The method of claim 15, wherein the bitstream is a visual bitstream and the
2 indication of the priority of the element is carried by a specific codeword in the visual bitstream.

1 21. The method of claim 15, wherein the bitstream is a systems bitstream and the
2 indication of the priority of the element is included as part of an object descriptor in the systems
3 bitstream.

1 22. The method of claim 15, further comprising the step of:
2 decoding the second element to reconstruct video information contained in the bitstream.

1 23. A bitstream representing video information, the bitstream produced by the process
2 of:
3 receiving the video information;
4 identifying an element of the video information,
5 assigning a priority to the element; and
6 generating data representative of the video information, including an indication of the
7 priority of the element.

1 24. An apparatus for encoding video information, comprising:
2 an input port configured to receive the video information;

3 an encoding unit coupled to said input port, said encoding unit being configured to
4 identify an element of the video information, assign a priority to the element, and encode the
5 video information into a bitstream, including an indication of the priority of the element; and
6 an output port coupled to said encoding unit, said output port being configured to output
7 the encoded bitstream.

25. An apparatus for decoding an encoded bitstream, comprising:

2 an input port configured to receive the encoded bitstream;
3 a decoding unit coupled to said input port, said decoding unit being configured to identify
4 a first element and a second element in the encoded bitstream, the first element having a first
5 priority and the second element having a second priority lower than the first priority, and decode
6 the first element to reconstruct video information contained in the encoded bitstream; and
7 an output port coupled to said decoding unit, said output port being configured to output
8 the reconstructed video information.

1 26. A medium that stores instructions adapted to be executed by a processor to perform
2 the steps of:
3 receiving information to be encoded;
4 identifying an element of the video information;
5 assigning a priority to the element; and

6 encoding the video information into a bitstream, including an indication of the priority of
7 the element.

27. A medium that stores instructions adapted to be executed by a processor to perform the steps of:

receiving an encoded bitstream;

identifying a first element and a second element in the encoded bitstream, the first

element having a first priority and the second element having a second priority lower than the first priority; and

decoding the first element to reconstruct video information contained in the bitstream.